

2. INSTITUTIONAL REPORTS AND DOCTORAL THESES

Department of Computer Science
K.U.Leuven
Celestijnenlaan 200A
B-3030 Heverlee
Belgium

Reports

- TW111 - R. Cools and A. Haegemans: A Lower Bound for the Number of Function Evaluations in an Error Estimate for Numerical Integration (June 1988).
- TW112 - R. Cools and A. Haegemans: On the Construction of Multi-Dimensional Embedded Cubature Formulae (July 1988).
- TW113 - A. Haegemans and J. Verbeke: The Symmetric Generalized Accelerated Overrelaxation (SGAOR) Method (August 1988).
- TW114 - L. Bomans and D. Roose: Benchmarking the iPSC/2 (October 1988).
- TW115 - S. Vandewalle, J. De Keyser and R. Piessens: The Numerical Solution of Elliptic Partial Differential Equations on a Hypercube Multiprocessor (November 1988).
- TW116 - Xu Guo-liang and A. Bultheel: The Problem of Matrix Padé Approximation (November 1988).
- TW117 - Xu Guo-liang and A. Bultheel: The Structure of the Minimal Padé Approximation Table (November 1988).
- TW118 - H. Embrechts, D. Roose and P. Wambacq: A Parallel Component Labelling Algorithm (December 1988).
- TW119 - H. Embrechts and D. Roose: Component Labelling on a Distributed Memory Multiprocessor (March 1989).
- TW120 - S. Vandewalle and R. Piessens: A Comparison of Parallel Multigrid Strategies (February 1989).
- TW121 - S. Vandewalle and R. Piessens: A Comparison of the Crank-Nicolson and Waveform Relaxation Multigrid Methods (April 1989).

Doctoral Theses

- Marc Van Barel: Nested Minimal Partial Realizations and Related Matrix Rational Approximants (January 1989).
- Ronald Cools: The Construction of Cubature Formulae Using Invariant Theory and Ideal Theory (May 1989).

Institut für Angewandte Mathematik
der Universität Bonn
Sonderforschungsbereich 256
Wegelestrasse 6, 5300 Bonn 1
West-Germany

Reports

- 19 — Fuchs, Martin: The Smoothness of the Free Boundary for a Class of Vector-Valued Problems.
- 20 — Pöschel, Jürgen: On Elliptic Lower Dimensional Tori in Hamiltonian Systems.
- 21 — Karcher, Hermann: Embedded Minimal Surfaces Derived from Scherk's Examples.
- 22 — Farwig, Reinhard: Stationary Solutions of the Navier-Stokes Equations for a Compressible, Viscous and Heat-Conductive Fluid.
- 23 — Duzaar, Frank and Fuchs, Martin: On Removable Singularities of p -Harmonic Maps.
- 24 — Dal Maso, Gianni; Mosco, Umberto and Vivaldi, Maria Agostina: A Pointwise Regularity Theory for the Two-Obstacle Problem.
- 25 — Stoth, Barbara: On Periodic Solutions of Linear Thermostat Problems.
- 26 — Racke, Reinhard: On the Cauchy Problem in Nonlinear 3-D-Thermoelasticity.
- 27 — Racke, Reinhard: Blow-Up in Nonlinear Three-Dimensional Thermoelasticity.
- 28 — Alt, H.W. and van Duijn, C.J.: A Stationary Flow of Fresh and Salt Groundwater in a Coastal Aquifer.
- 29 — Bemelmans, Josef: Free Boundary Problems for the Navier-Stokes Equations. To be published in: Springer Lect. Notes in Math.
- 30 — Dierkes, Ulrich: A Geometric Maximum Principle, Plateau's Problem for Surfaces of Prescribed Mean Curvature, and the Two Dimensional Analogue of the Catenary. To be published in: Springer Lect. Notes in Math.

- 31 — Meier, Michael: Asymptotic Behavior of Solutions of some Quasilinear Elliptic Systems in Exterior Domains. To be published in: Springer Lecture Notes in Mathematics.
- 32 — Jost, Jürgen: Embedded Minimal Surfaces in Manifolds Diffeomorphic to the Three-Dimensional Ball or Sphere.
- 33 — Jost, Jürgen: Embedded Minimal Disks with a Free Boundary on a Polyhedron in R^3 . To be published in: Math. Z.
- 34 — Jost, Jürgen: A Nonparametric Proof of the Theorem of Lusternik and Schnirelman. To be published in: Archiv Math.
- 35 — Grüter, Michael: The Monotonicity Formula in Geometric Measure Theory, and an Application to a Partially Free Boundary Problem. To be published in: Springer Lecture Notes in Mathematics.
- 36 — Urbas, John: On the Expansion of Convex Hypersurfaces by Symmetric Functions of Their Principal Radii of Curvature.
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- 39 — Racke, Reinhard: L^p - L^q -Estimates for Solutions to the Equations of Linear Thermoelasticity in Exterior Domains.
- 40 — Ponce, Gustavo and Racke, Reinhard: Global Existence of Solutions to the Initial Value Problem for Nonlinear Thermoelasticity.
- 41 — Alber, Hans Dieter and Cooper, Jefferey: A Free Boundary Value Problem for a Quasilinear Hyperbolic System. To be published in: Journal für die reine und angew. Mathematik.
- 42 — Jiang, Song and Racke, Reinhard: On Some Quasilinear Hyperbolic-Parabolic Initial Boundary Value Problems.
- 43 — Grüter, Michael: A Remark on Minimal Surfaces with Corners. To be published in: Proceedings of the workshop on "Variational Problems" Paris, 13.-18. June, 1988.
- 44 — Dierkes, Ulrich: A Classification of Minimal Cones in $R^n \times R^+$ and a Counterexample to Interior Regularity of Energy Minimizing Functions.
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- 46 — Deckelnick, Klaus: Decay Estimates for the Compressible Navier-Stokes Equations in the Half-Space.
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- 48 — Ye, Rugang: A New Approach to Embedded Minimal Surfaces.
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- 50 — Schumann, Rainer: Regularity for Signorini's Problem in Linear Elasticity.
- 51 — Schumann, Rainer: A Remark on a Boundary Contact Problem in Linear Elasticity.
- 52 — Dierkes, Ulrich: Minimal Hypercones and $C^{0,\frac{1}{2}}$ -Minimizers for a Singular Variational Problem. To be published in: Indiana University Math. Journal.
- 53 — Dierkes, Ulrich: Boundary Regularity for Solutions of a Singular Variational Problem with Linear Growth. To be published in: Archive Rat. Mech. Anal.
- 54 — Dierkes, Ulrich and Huisken, Gerhard: The N-Dimensional Analogue of the Catenary: Existence and Non-Existence. To be published in: Pacific Journ. Math.
- 55 — Dierkes, Ulrich: On the Non-Existence of Energy Stable Minimal Cones.
- 56 — Finn, Robert: Comparison Principles in Capillarity. To be published in: Lecture Notes in Mathematics.
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- 60 — Constanda, Christian: Mathematical Aspects of Bending of Plates with Transverse Shear Deformation.
- 61 — Frehse, Jens: On a Class of Nonlinear Diagonal Elliptic Systems with Critical Growth and C^α -Regularity.

Faculty of Engineering
Nagoya University
Nagoya 461-01, Japan

Doctoral Theses

- Chisato Suzuki: Lacunary Interpolation and its Application to Nonlinear Two-Point Boundary Value Problems.
- Takashi Kitagawa: Numerical Analysis on Linear Ill-Posed Problems.

The Graduate School of
Science and Technology
Kobe University
Rokko, Kobe 657, Japan

Doctoral Thesis

- Shigekatsu Arioka: Numerical and Approximation Theoretical Studies of Multivariate Functions.

Technische Universität Graz
Institut für Mathematik B
Kopernikusgasse 24
A-8010 Graz, Austria

Universität Graz
Institut für Mathematik
Elisabethstrasse 16/II
A-8010 Graz, Austria

Reports

- 109 — Rote, G.: The N-Line-Traveling Salesman Problem (January 1988).
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- 125 — Burkard, R.E. and Sandholzer, W.: Efficiently Solvable Special Cases of Bottleneck Travelling Salesman Problems (August 1988).